

What is claimed is:

1. A threaded pipe flange comprising:
  - a base portion having a predetermined shape and at least two openings dimensioned to accept at least two mounting bolts;
  - 5 a shoulder portion extending from and integral to said base portion, said shoulder portion comprising at least two substantially flat gripping surfaces; and a threaded opening extending through said base portion and said shoulder portion, said threaded opening being dimensioned for attachment to a predetermined threaded pipe;
  - 10 wherein said pipe flange may be attached to said predetermined threaded pipe by aligning said threaded opening with said predetermined threaded pipe, gripping said gripping surfaces of said shoulder portion, and rotating said pipe flange.
2. The pipe flange as claimed in claim 1 wherein said shoulder portion comprises four gripping surfaces.
- 15 3. The pipe flange as claimed in claim 1 wherein said shoulder portion comprises six gripping surfaces.
4. The pipe flange as claimed in claim 1 wherein said shoulder portion comprises eight gripping surfaces.
5. The pipe flange as claimed in claim 1 wherein said base portion has an elliptical shape.
- 20 6. The pipe flange as claimed in claim 1 wherein said base portion has a round shape.

7. The pipe flange as claimed in claim 1 wherein said pipe flange is manufactured of a material selected from a group consisting of malleable iron, ductile iron, brass and steel.

8. A piping system comprising:

5        a threaded pipe;

at least two mounting bolts;

a pump comprising at least one volute flange, said volute flange comprising a volute opening and at least two bolt openings dimensioned to accept said at least two mounting bolts; and

10      a threaded pipe flange comprising;

a base portion dimensioned to mate with said at least one volute flange of said pump and comprising at least two pipe flange openings dimensioned to accept said at least two mounting bolts;

15      a shoulder portion extending from and integral to said base portion, said shoulder portion comprising at least two substantially flat gripping surfaces; and

a threaded opening extending through said base portion and said shoulder portion, said threaded opening being dimensioned for attachment to said threaded pipe;

wherein said pipe flange is attached to said threaded pipe by aligning said threaded opening with said predetermined threaded pipe, gripping said gripping surfaces of said shoulder portion, and rotating said pipe flange, and wherein said pipe flange is attached to said pump by aligning said pipe flange openings with said bolt openings on said volute flange and disposing and securing said bolts through said pipe flange and said volute flange such that said pipe flange and said pump are secured together.

9. The piping system as claimed in claim 8 further comprising a gasket disposed between said pipe flange and said volute flange.

10. The piping system as claimed in claim 9 wherein said pump is a circulator, wherein said volute flange of said circulator comprises a substantially flat surface, and  
5 wherein said gasket is dimensioned to have a substantially identical shape to a shape of said substantially flat surface of said base portion of said pipe flange.

11. The piping system as claimed in claim 9 wherein said pump is a circulator, wherein said volute flange of said circulator comprises a substantially flat surface having a recessed portion surrounding said volute opening, and wherein said gasket is  
10 dimensioned for disposal within said recessed portion of said substantially flat surface.

12. The piping system as claimed in claim 8 wherein said shoulder portion of said pipe flange comprises between two and eight gripping surfaces.

13. A threaded pipe flange consisting of:  
a base portion having a predetermined shape and at least two openings  
15 dimensioned to accept at least two mounting bolts;  
a shoulder portion extending from and integral to said base portion, said shoulder portion comprising at least two substantially flat gripping surfaces; and  
a threaded opening extending through said base portion and said shoulder portion,  
said threaded opening being dimensioned for attachment to a predetermined threaded  
20 pipe;

wherein said pipe flange may be attached to said predetermined threaded pipe by aligning said threaded opening with said predetermined threaded pipe, gripping said gripping surfaces of said shoulder portion, and rotating said pipe flange.